Book of Abstracts

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Faculty of Economics

VSB – Technical University of Ostrava

Book of Abstracts

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Content

Section 1 – Economics

Tax Incentives, Ease of Doing Business and Inflows of FDI in Africa: Does Governance Matter?

Adamu Braimah Abille

Slovak Academy of Sciences

Apart from the corporate tax rates, it has been established in the literature that the ease of doing business (EDB) index accounts contributes to for the cross-country or regional differences in the inflows of foreign direct investment (FDI) as established in the literature. However, this study contends that institutional quality indicators are critical to complement the role of the EDB in attracting the desired FDI into Africa. For empirical evidence, the study performs governance indicators-related step-wise system-GMM estimations of the effect of corporate tax, uninteracted EDB, and the interplay between EDB and governance indicators on the net inflows of FDI using data from 2015 to 2019 for 50 African countries. The findings show that the corporate tax rate and the un-interactive EDB have significant negative effects on the inflows of FDI in Africa in the short and long runs. In contrast, governance indicators such as control of corruption, political stability, regulatory quality, rule of law, and government effectiveness complement EDB to exert positive effects on the inflows of FDI in Africa, albeit the findings are not generally significant. Thus, to attract the desired FDI, the study interalia calls for stricter institutional quality assurance in Africa.

The Relationship between Uncertainty Indicators and Metal Prices: NARDL Approach

Kristína Hudecová

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The recent exposure of commodity markets to various dangers and disruptions has interfered with their regular operation. Higher uncertainty in the market has been influenced by the global Covid-19 outbreak, Brexit, and the intensification of the hostilities between Russia and Ukraine. This paper's objective is to examine the non-linear relationships between particular uncertainty indicators and metal prices by using the NARDL model from 2 January 2020 to 29 July 2022. Our findings show that, over the long term, financial volatility has a linear impact on the prices of gold and palladium. Likewise, the cointegration between gold prices, geopolitical risk, and the unpredictability of economic policy was also verified. The uncertainty indicators, on the other hand, have a long-term asymmetrical impact on the prices of copper and silver. Shocks in financial volatility in the short, as well as long run, affect the prices of silver and copper. Besides, the cooper prices are also affected by changes in geopolitical risk in the long run. No asymmetry between economic policy uncertainty and prices of selected metals over the

short and long term was verified. Moreover, the cointegration between uncertainty indicators and prices of aluminium, iron ore, platinum and steel was not confirmed.

Literature Review: Tax Perspective on the Value Creation in Platform Business Models

Markéta Mlčúchová

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The main focus of the paper is on platform business models as ubiquitous features of the digital economy whose economic importance is continuously increasing hence bringing new challenges for the worldwide tax frame-work. Building on a unified definition and identified main attributes of platform business models, this paper aims to describe the value creation process in platform business models. In line with fulfilling the main aim, the fol-lowing research question is addressed: 'How do platform business models create, deliver, and capture value through their business model configurations?'. Conducting an integrative literature review this paper confirmed, that the capacity to collect, analyze and, most importantly, monetize digital data is one of the main value creating assets of platform business models. However, the role of value-creating human activities and interconnected relationships between users, amplified by network effects, was highlighted. Specifically, the paper's contribution is in identifying and describing the main sequential stages of data value chain in platform business models.

The Long Term and Short Term Effects of the COVID-19 Pandemic Impact on Czech Labor Market

Tomáš Pavlíček

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We focus on the assessment of the COVID-19 pandemic effects on the labor market in the Czech Republic. We observe the structural indicators of the labor market over the years 2020-2021 and evaluate the persistence of these effects with the data already available for 2022. An important part of the study is a review of studies concerned with labor markets abroad during the crisis, especially in the European context. Throughout the pandemic in the Czech republic, the unemployment rate has risen over the long term average but still reached its highest point at only modest 3.4% at the height of the epidemic, which is predominantly due the extensive government spending policies to compensate for both drop in demand and the restrictions, it recovered by the start of 2022. The employment rate dropped below the long term average but recovered to the pre-crisis levels in 2022. In absolute numbers the number of people actually working has dropped by more than 100,000 between the end 2019 and the end 2020 but recovered by the end of 2021. After that we can see another drop which can be already attributed to other factors. We document that the employment effects have been highly heterogenous

especially in terms of age and area of work. In terms of long-term effects both the unemployment and employment rate as well as some structural indicators returned to the long-term average in 2022. The analysis of the permanency of some of the more subtle effects with longer recovery periods is difficult due to the coincidence of the newly emerging energy crisis onset and the COVID-19 recovery period in 2022.

Determinants of the Entrepreneurial Entry with the Focus on the Social Capital: Empirical Literature Review

Prity Sinha

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Entrepreneurship is very important for the development of economy. Today, men and women are both participating in entrepreneurship, but despite the great advancement in gender equality, we can see a lower participation rate of women towards their entrepreneurial journey combined with a low success rate. The paper has focused on entrepreneurial entry from a women's perspective, with the aim of investigating empirical studies of the determinants of starting a business, why there is a gender gap in starting a business, and how networking is important to start a business. The results show that entrepreneurial profile, strategy, business model, and planning are important aspects of entrepreneurial entry. Quality of governance, economic opportunities, resources, and abilities, sociopsychological determinants (e.g., self-actualisation) are a significant determinant of entrepreneurial entry. Determinants such as the survival rate of business, competition, risk-taking attitude, and financial challenges were significant for the gender gap in entrepreneurship. Marriage, work force participation rate, prior experience, institutions are some other factors to determine gender gap. Social capital has focused on structural dimension (knowing someone who has started a business in the last two year), and cognitive dimension (considering entrepreneurship as a desirable career choice in society, high social status, and respect) with the focus on different types of ties (strong and weak), as well as bonding and bridging.

Nonlinear Effects of Inflation Drivers in China: Empirical Evidence from an NARDL Model

Luo Yang

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Inflation dynamics in the recent period turn the attention back to this complex phenomenon. In this paper, we analyze asymmetric effects of macroeconomic drivers on inflation in China over the period 1998Q1 — 2022Q3. We employ nonlinear ARDL by Shin et al. (2014) that allows us to simultaneously test for the short- and long-run asymmetries through positive and negative partial sum decompositions of the predetermined explanatory variables. We find that trade openness, interest rates, and international crude

oil prices have a long-run asymmetric effect on inflation. We do not find any asymmetric effect of GDP and exchange rate on inflation in the long-run. We examine the effects of global crises (GFC and Covid-19) on inflation. The asymmetric effects seem to be driven by these events, especially by the Covid-19 crisis.

Is There a Relationship between the Unemployment Rate Based on Google Trends and Macroeconomic Indicators? Evidence from the Czech Republic

Klára Zálešáková

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Unemployment is a fundamental economic quantity that determines the economic balance, but time is dynamic and as we can see economic crises affect countries more and more often. As a result of economic imbalances and crises, there is an increase in the unemployment rate all over the world. In this study, we will focus on the interdependence between unemployment and macroeconomic indicators. The unemployment rate will be compiled on the basis of Google Trends, as the abundant use of Internet data is an opportunity to monitor the activity of users on the Internet in searching for a job. Different types of confidence indicators were chosen as macroeconomic indicators. To analyze the relationships, VAR models will be constructed with the subsequent application of Granger causality.

Section 2 – Business Administration and Management

The Impact of Corporate Social Responsibility on the Financial Performance of Selected Banks in the Central Europe

Daniel Addo-Bempong

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The role of Corporate Social Responsibilty (CSR) is to build consumer trust with banks and provides positive customer outreach. The aim of this paper is to investigate the impact of Corporate Social Responsibility on the Financial Performance of selected banks in the Central European countries namely Germany, Czech Republic, Austria and Switzerland base on simple random sampling. The study employed panel regression analysis. Secondary data was collected on twenty (20) banks in Central Europe with five banks selected from each country namely Austria, Czech Republic, Germany, and Switzerland using annual report from the year 2017 to 2021. The dependent variables was financial performance proxied by Return on Equity (ROE). The explanatory variable included Corporate Social Respomsibilty (CSR), Bank Size (SZ), and Capital Adequacy (CA). Fixed-effect model was fitted to the data. Th regression results showed that CSR has positive but insigificant impact on the financial performance of banks. It is therefore, recommended that banks should still provide CSR activities which will enhance the socio-economic condition of their people in their society.

The ECSI Model Applied in the Fast Food Industry in the Czech Republic

Markéta Davidová

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Competition can be found in almost every market in every sector. There are big automotive players, leaders in banking, and even in the case of fast food, we can find dominant companies. Some have a long tradition, others have been around for a little while and although some of these companies may seem to compete sometimes they have the same owner or history. In the Czech Republic, three fast food outlets have been compared using the ECSI satisfaction method KFC, Burger King, and McDonald's.

Select the Most Suitable Shift Model for Production Year 2023 – BVN Company

Minh Tri Nguyen

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The purpose of this project is to descibe the way of making decision based on multi criteria and alternatives – a real problem of BVN company – a manufacturing one that produce components for car industry. BVN is facing with the fact that 2023 production volume will reduce 12% compared with 2022 volume, mostly from China market due to covid 19 restriction measures. In order to secure company profit, BVN has to review shift working models proposed by operation team with its own criteria then select the most suitable one for year 2023. AHP method is applied to calculate weight of criteria, alternatives, then having ranking for alternatives for decision making. The first part of this project will describe the background of BVN problem, then AHP method for multi criterial decision making, next step is demonstrates the application of AHP method to solve BVN real case issue, in the last step the brief conclusion of results will be stated clearly for decision making.

Well-Being Oriented HRM

Thao Diep Thi Phuong

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Human resource management is a vital asset for an organization to meet its goals. Human resource, together with employee effort and performance, determines business success. However, customer experience has been studied in depth while the employee experience is seldom explored as an important aspect. The aim of this article is to review recent publications, to analyse them and to provide an insight on the employee well-being, to provide a better understanding on the relationship between WB HRM and employee performance. By providing a comprehensive review of quantitative, qualitative and theoretical studies published in journals, this study is important through provide theoretical contributes to the HRM literature and practical implications to the businesses.

Evaluation of Ecoturism Recources in Con Dao Ba Ria - Vung Tau Province

Dung Pham Thuy

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The main objective of this topic is to identify the ecotourism resources and products for ecotourism development in the Con Dao National Park of Ba Ria-Vung Tau, Vietnam. The

study used a cross-sectional descriptive research design. Both qualitative and quantitative methods are used. In qualitative methods, the article references previous documents, at the same time, conducts a survey by Professional solution and Delphi method to find out the factors that affect the choice of ecotourism in BRVT. In quantitative methods, after determining the factors affecting the choice of ecotourism type, the author builds a questionnaire with a Likert scale for visitors to answer. With the functions of EFA analysis and multivariable regression analysis, the author calculates the number of samples. Data were collected by using a questionnaire, interview, field observation and secondary document analysis. The questionnaire was distributed to the visitors in order to determine the market demand by using convenience sampling technique. Interview was conducted with office personnel's, selected local community representatives and selected by using non-probability sampling technique. In Con Dao conservation has potential ecotourism resources especially in terms of wildlife, higher vascular vegetation such as woody trees, shrubs, vines, plants, herbs …. Cultural resources. The presence of untapped ecotourism resources has potential for community participation including natural resources conservation and awareness of the negative and positive impacts of ecotourism.

Section 3 – Marketing and Business

The Influence of Customer Satisfaction Factors on Customer Behaviour in the Co-creation of Company Services

David Grendysa

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The influence of customer satisfaction factors on their behavior in co-creating the company's services is one of the most interesting marketing topics recently. And if the field under study is also a new service in the consumer market, such as self-service laundry, then this is an unexplored area of application of this theory in this new sector of services.In self-service laundries, the customer is largely involved in providing / receiving the service from the principle of this type of business, i.e. when the customer washes and dries the delivered laundry himself. At the same time, his satisfaction with the service provided and the related further recommendation to potential customers, his assistance to other customers or the provision of feedback to the company to further improve its services plays a big role here. The topic of the project for the subject Economics and Management is the theoretical basis for the study of Customer satisfaction, its connection with the so-called Customer citizenship behavior or Customer engagement behavior, which are the theoretical underpinnings of my dissertation "The influence of customer satisfaction factors on customer engagement behavior in the co-creation of company services" in the field of self-service laundries. Linking customer satisfaction measurement theory and consumer behavior theory can show us which service factors have a greater or lesser influence on customer satisfaction and also demonstrate the link between customer satisfaction and their willingness to participate in the firm's services. The results will show which service factors have influence on customer satisfaction. They´ll also show a link between customer satisfaction and their willingness to participate in the company's services.

Is Nutri-Score Labelling Affecting the Food Decisions? Analysis of the Perception and Knowledge of Generation Z

Martina Hudecová

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In the last few years, there has been an increased interest from consumers in healthy and nutritious food. Consumers are conscious and believe that food has a favourable or unfavourable impact on health. Therefore monitoring food composition is becoming more essential. Several studies have shown that Front-of-Pack labels and Back-of-Pack influence consumers' choices. Nutritional labels are considered as an effective tool for helping consumers in making healthy food decisions. This paper's objective was to investigate the perception and knowledge of Nutri-Score labelling of Generation Z. The

research was based on primary data obtained from an online questionnaire survey. According to the results, the majority of respondents considered the Nutri-Score label as understandable. The results show that women inclined to purchase more products with the Nutri-Score label compared to men. Moreover, respondents who achieved a higher income preferred purchasing food with the Nutri-score label over food without this label. In the context of identifying the factors affecting food purchases, results indicate that advertising and the design of packaging had no influence. On the other hand, previous experience was considered the most influencing component of the purchase. Moreover, the Nutri-Score label was marked as a significant element while purchasing.

Digital Marketing Activities Affecting Green Consumer Decisions of Generation Z: The Case of Fashion Brand in the World

Doan Nguyen

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Green consumerism is a new trend that is gaining traction all around the world. Consumers of generation Z in all the world demanding more sustainability from luxury brands, especially if they sniff about the act of "Greenwashing", they will stop supporting immediately. Thus, demand of gen Z about sustainability fashion is very high and be coming trend of life. However, due to inefficient execution of marketing, more specifically, digital marketing activities in most businesses, real sales of this product line are still fairly low. The goal of this study was to find out how digital marketing activities affecting green consumer decisions of generation Z: the case of fashion brand in the world. This research will use statistical analysis method to building a research model, building a linear function for the research model, using primary data collection techniques by distributing survey forms, then analyzing survey data with Cronbach's alpha, Exploratory Factor Analysis - EFA, correlation and regression by SPSS software. Then this research can analyze the relationship between digital marketing activities and green consumer decisions of generation Z when they choose sustainability fashion products of brands fashion in the world. Then suggest solutions to help fashion brands motivate green consumer decisions of generation Z.

Segmentation of Generation Y and Z Consumers in the Ecological Dental Supplies Market

Kristýna Stromská

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Dividing consumers into several segments is important for companies as they can adjust their marketing communication and target specific key segments, which can help them to increase their profit. It is essential for ecological goods markets especially as buying these products means creating less waste. The aim of this paper is to create a typology of

Generation Y and Z consumers in the ecological dental supplies market. The data was collected by online survey and analysed by different statistical methods (e. g. factor analysis, cluster analysis). Based on the findings different segments were created, characterized and their demographic profile was described. As there is a lack of research in this market, this study could be used as a future framework for studies on related markets. However, this study is limited to the Czech market only and results would probably be different in other markets and for other generations.

Predatory Monetization in MMORPGs

Adam Vávra

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Monetization in Massive Multiplayer Online Role Play Games are very common occurrence in various forms in 2022 and it is impossible to find MMORPG a without any monetization. The problem lies within predatory monetization, methods which artificially gives paying customers advantages over the non-paying customers using psychology as main weapon. That will breed problems in long-term profitability and gradual decline of I.P., intellectual property. Company which created that I.P. will have to create a new I.P. or continue with already damaged I.P. which makes it harder to promote and sell. The research paper will analyze data from the questionnaire and try to find theoretical background for the results to give more understandable context. The results suggesting that players want to have advantages and be unique over other players either through fair or unfair methods. Companies sees this behavior. they decide to give these players shortcuts to these benefits. That create in short time burst of revenue and in long term diminish interest in the I.P. which companies translate as unwanted product. Predatory monetization is not problem only in MMORPGs but it is becoming wider problem in the whole video game industry. The most aggressive monetization can be found on the mobile game market and data shows that the mobile market is becoming most profitable. Because it is becoming most profitable part of industry other companies tries to replicate it to get as much revenue for less work which has negative effects mentioned in the paper.

The Influences of E-WOM on Vietnamese Generation Z Purchase Intention in F&B Industry

Thuy Thanh Tam Vo

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The development of the Internet and Social Media platforms such as Google, YouTube, Facebook, TikTok allows people to share information, experiences, emotions which leads to the rapid growth of electronic word of mouth (e-WOM). Review has almost become an important tool to help food service businesses be widely known, creating an advantage for themselves in the fiercely competitive market of the F&B industry. Thus, the paper aims to find out the influencing attributes of e-WOM on the intention to choose a place to

have meals of Generation Z in Vietnam. The data was collected from 330 respondents by the convenience sampling technique, then it was analyzed using SPSS 20 to conduct scale tests using Cronbach's Alpha coefficient, after that, exploratory factor analysis (EFA) was executed before correlation analysis, and regression analysis was presented in the final. Research results confirm that five attributes of e-WOM including Reliability of e-WOM Sources, Usefulness of e-WOM, Quantity of e-WOM, Quality of e-WOM, and Using Experience of e-WOM all affect the intention of Vietnamese young people to choose a restaurant. In which, the Quality of e-WOM has the strongest impact. This study would help businesses better understand the important attributes of e-WOM and how to utilize e-WOM as an effective marketing tool to conquer potential and current customers through some recommendations at the last part.

Building of Strong Brands with Emphasis on Branding of Tourism Destination

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The topic of this paper is the research of professional journals, reference books, published papers as well as study of best practice of building the strong brands. The key question is how to define a strong brand, from which values the strong brand has been formed and which factors create strong brands. The main point of interest is the branding of tourism destination and how are the standard modern branding strategies useable for it. Destinations brands have very specific characteristics, they are based on historical name of the location and are usually public property. This paper deals with the question which branding factors are most important for the strong brand of tourims destination. As a example had been evaluated two successful destinations Austria and Upper Austria and their approach to branding management. The research will be used as the basis of analysis of other destinations in dissertation „The marketing of tourism services with the accent of destination branding".

Section 4 – Law and Public Economy

International Competitiveness of the European Agriculture Regarding the Green Deal and Geopolitical Situation - Overview

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The research aims to further open up the debate about the international competitiveness of the European agricultural sector with regard of the new Green Deal Policy that has been promoted as a core guidance to what agriculture in the European Union might look like in the up-coming years, providing a more thorough compliance with new environmental challenges. Besides, looking upon the recent progress concerning the war in Ukraine, it must be taken into account what that means for the European agricultural outlook and possibility of Turkey becoming a new agricultural commodity trading partner. The objective is to find a suitable methodology by which it would be possible to analyze the impacts on the international competitiveness of the European agriculture by implementing the new Green Deal standards. Since 13th October 2020, there has been a strengthening call to provide a comprehensive impact assessment on European Green Deal initiatives being part of the new CAP, thus the contribution of this paper is to fuel up a debate concerning competitiveness of the agrarian sector. Considering the opinion made by Wrzaszcz and Pandecki (2020) who favoured rapid acceleration of the changes towards more sustainable agricultural practices, there is an urgent need to promote a debate concerning issues that agricultural sector is able to tackle and at the same time that this tackling must be in thorough compliance with preservation of the current level of competitiveness.

Impact of the COVID-19 Pandemic and Impacts of the Energy Crisis on the Economy of Municipalities

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Representatives of local governments elected in the 8th electoral cycle of Slovak elections were exposed to two major crisis for the greater part of their mandate. The first challenge began in March 2020 with a situation that had no precedents in modern history. The COVID-19 coronavirus pandemic has brought a wave of uncertainty to all entities in the economy. Another major challenge is the energy crisis associated with the increase in energy prices for municipalities. The aim of this paper is to apply the impact assessment of these crises at the level of local government.

Ways to Measure Financial and Legal Literacy

Katarzyna Zahrajová

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The definition of financial and legal literacy is still evolving. In today's uncertain times, it is particularly important to define and understand financial and legal literacy correctly. Their focus is seemingly different but they have much in common. Properly determined, the measurement of these two areas is essential to understanding them and using them correctly in financial decision-making. This article will provide an overview of methods that can be used to examine the level of financial and legal literacy in a society. The problem is often the inappropriate interpretation of indicators and results. The aim is to help quantitative research to find a method of investigation such that its measures assess the level of both financial and legal literacy. An overview of the methods will be presented to highlight the potential shortcomings and limitations of these methods.

Section 5 – Finance and Accounting

The Role of the Sentiment in Financial Market

Maidiya Bahate

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The aim of this paper is to find out the role of the sentiment for asset pricing. For found out is there correlations between the sentiment of the market and investors behavioral. For the test and model, we will use the software STATA and other basic software. First, we will use linear regression to test the weekly data from the Fama &French 3 factor model. Second, we add the sentiment indices into the model whether there is significant correlation between them. We found out that sentiment analysis is positively related with the investor behavioral moreover with the asset pricing. Hence the market sentiment can influence investors. This paper can lead to a better understanding of the irrational investor behavioral, which also understands as the biases of the trading.

Research on M&A Decision Making Based on Real Option Game Theory

Qiyuan Dai

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Making the right M&A decision is essential for the enterprise. One of the key aspects of the decision-making process is determining the price of M&A in a reasonable and scientific way. Since traditional decision-making methods do not take into account the competitiveness and uncertainty of M&A, this paper applies theories and methods related to real options and game theory to conduct an in-depth study on the pricing of corporate M&A. The goal of this paper is to estimate the price of M&A by applying the combination of real option methodology and game theory. We define the total price as the sum of the target company value and the M&A added value of M&A. Each part of the value is estimated. Additionally, the negotiation process can affect the final price. Therefore, we construct a four-round bargaining game model for M&A negotiation. Finally, a case study is conducted to verify the validity of the model.

How Do Risk Appetite and Size Matter for Banking Credit Risk Management?

Xiaoshan Feng

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A bank's ability to expand its business can be affected and limited to some extent by its size. In measuring the efficiency of a bank's credit risk management, it is critical to determine whether a bank's size has an impact, while the impact of a bank's risk appetite on risk management is also of concern. The objective of this paper is to examine how size and risk appetite affect the management of credit risk under the assumption of healthy efficiency scores are produced. To achieve this objective, this paper quantifies the management of credit risk, analyses the impact of bank size before and after modification of its efficiency, then includes risk appetite as one of the impact factors to investigate how size and risk appetite play out in the specific banking sector.

Efficiency Measurement of the Life Insurance Markets with Three-Stage DEA Model

Biwei Guan

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Efficiency measurement has become popular in the insurance industry in recent years. Regulators can better adjust the regulatory indicators of the insurance market by looking at the relevant insurance efficiency score; investors can determine whether they should invest based on the efficiency of the insurance market, and company managers can adjust the relevant input value based on the efficiency analysis results. According to Kaffash et al. (2019), 132 studies on the application of DEA in the insurance industry were published between 1993 and 2018. To measure efficiency, there are two main methods: stochastic frontier analysis (SFA) and data envelopment analysis (DEA). Some researchers, however, pointed out that the traditional DEA model failed to account for the impact of environmental effects and statistical noise on decision-making units (DMUs). In this thesis, we use the three-stage data envelopment analysis model to evaluate the efficiency score of 18 selected OECD life insurance markets from 2014-2019 and make a comparison of them. In the first stage, we will use the basic DEA model to get the original efficiency score; and in the second stage, we will use stochastic frontier analysis regression to remove the impact of environmental effects and statistical noise on the original efficiency score; after the adjustment according to the second stage, we will recalculate the efficiency score of each market. Based on the results, we will find out the specific ways to improve the efficiency of the inefficient insurance market. and find out how the relevant environmental factors affect the efficiency of the insurance market. And we examine the relationship between technical efficiency and company size, profitability, and solvency using a multiple linear regression model. Our main conclusions are the German life insurance market is the most efficient, followed by the Swedish life insurance market, Irish life insurance market and Italian life insurance market; and the Lithuanian life

insurance market is the least efficient, followed by Slovenia life insurance market, Greece life insurance market and Hungary life insurance market; most life insurance markets with increased total factor productivity are due to increased technical efficiency; most life insurance markets with decreased total factor productivity are also due to decreased technical efficiency; and life insurance markets with large size, high profitability, and high solvency are usually more efficient. The contribution of this thesis is to use more comprehensive data, to analyze at more angles and levels, and to produce more precise results.

Reorganization in Interaction with the Industry

Jindřiška Chodurová

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Compared to the efficient market hypothesis, behavioral finance consider emotions and The article assesses the reorganization in the Czech Republic in 2020-2021. The trend in recent years is a decreasing number of bankruptcies solved by reorganization. Statistical hypotheses were used to monitor whether the sector in which the company operates has an influence on the announcement of the company's reorganization. Data for the research was obtained from publicly available sources. The input data were the number of reorganizations carried out in the monitored years, divided by industry. Other data are available economic data. The research was evaluated in the context of industry influence and economic indicators. The goal was to evaluate the influence of the industry on the possibility of the company's bankruptcy and its solution in the form of reorganization, i.e. in a remedial manner.

Systemic Risk Detection Using Entropy Approach in Portfolio Selection Strategy

David Neděla

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Recently, uncertainty in the financial markets makes the investment environment uncomfortable for investors and analysts. Therefore, we should try to predict the presence of systemic risk in the market. In this paper, we analyze whether applying the defined entropy measure rule employing considered as an alarm allows us to predict a systemic risk and thus outperform the simple portfolio selection strategy. In particular, Shannon and Tsallis entropy measures are used. To determine the optimal weights of a portfolio, we apply a multifactor model with OLS regression and a newly proposed double optimization approach while considering proportional transaction costs. More detailed, we assume a reward-risk maximization model in the first step, and then selected risk indicators (VaR, CoVaR) are minimized while at least the expected return from the first step is achieved. Finally, ex-post results in empirical analysis with US stock data confirm the beneficial properties of this portfolio strategy.

The Relationship Between Alcoholic, Beverage and Tea Manufacturing Industry Profits and Impact Variables

Xiaotong Sang

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This paper studies the status of supply chain management in the Chinese alcohol, beverage, and tea manufacturing industry in the past ten years. The beverage consumption industry is an important part of daily consumption, so we focus on the corporate aspect. For this industry, company profits directly affect the entire supply situation, so working capital, liabilities, costs, and inventories are all direct factors influencing this situation. The aim of this article is to evaluate the relationship between the total profits of the Chinese alcoholic beverage industry profits and impact variables in recent ten years with econometrics method. More than 200 pieces of data, including those from macroeconomics and industry, are included in the test data. The relationship between variables with the maximum degree of fitting is ultimately discovered through autocorrelation, heteroskedasticity, multicollinearity, and normal distribution, and the formula form is displayed. Ultimately, we can confirm that there is a linear relationship between the total profit and the impact variables, and find that the debt to asset ratio and consumer confidence index have the most impact on the total profit. After this, feasible improvement suggestions are provided through data and algorithms.

Prediction Accuracy and Velocity: An Experimental Investigation

Michaela Sedláková

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We conduct a laboratory experiment to primarily study the effect of investment horizon on asset price volatility. Participants in the experiment have to predict the future price of three risky assets and are paid based on a ranking determined by the mean percentage error. However, participants are not limited in time, leading to different prediction speed. For this reason, the influence of velocity on the accuracy of participant predictions is examined more closely.

The Portfolio Strategy under the Influence of Attention

Jialei Xiong

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There is growing interest in the financial community in combining market sentiment with stock price forecasting. However, the research literature has rarely examined the application of market sentiment to portfolio selection problems. It is crucial to consider market sentiment in portfolio allocation and its optimization. In this project, we focus on the relationship between market sentiment and stock returns. We compare how traditional portfolio optimization results differ from the results of adding sentiment to portfolio optimization. We observe that combining market sentiment and portfolio optimization results in an enhanced portfolio selection strategy.

Section 6 – Systems Engineering and Informatics

Selection of an Automated Solution in Logistics Using the DEA Model

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In today's progressive era, when everything is constantly developing dynamically and moving forward at breakneck speed, society is increasingly resorting to digitization and automation. This is a much-discussed topic, mainly in the area of connecting industry and artificial intelligence, known as Industry 4.0. Currently, it is a big problem for many industrial companies to choose a suitable automation solution, either for them or their customers. There are many methods for evaluating the efficiency of individual solutions. One of them is Data Envelopment Analysis (DEA), comparing a set of admissible solutions formed by homogeneous production units, also referred to as Decision Making Units (DMU). The aim of this paper is to measure efficiency of logistics solutions using DEA CCR models assuming constant returns to scale. The application of DEA CCR models on a specific case demonstrates the possibility of solving the problem of choosing the most suitable solution. The results of CCR models are compared and, based on the achieved results, the company's previous decision is also evaluated. At the end, the (in)appropriateness of using these models was pointed out due to the large number of effective DMUs, and the use of a different model was recommended for future logistics solutions evaluation.

Mining Linguistic Summaries from Public Data about Mutual Funds

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Mutual funds are a popular choice among individuals seeking investments. Even though brokerage firms offer standard search and filter services, navigating through thousands of funds can become tedious for an individual retail investor. The investors then have to rely on a hit-or-miss filter approach by applying conditions to the filter query and inspecting results one by one. We work with the assumption that the investor is not initially interested in every detail in the dataset but wants a comprehensive summary even at the expense of lower information resolution. However, the insight from descriptive statistics is limited and statistical figures may be terse. Fuzzy set theory and fuzzy logic provide the toolset for representing low-resolution information, and the information can then be organized into short sentences in natural language — linguistic summaries. We mine summaries from the data about a thousand mutual funds marketed in the Czech Republic and present those as linguistic summaries. We argue that linguistic summaries can augment the funds' overview and help with the initial phases of the

investor's decision process by juxtaposing summaries with more conventional methods of descriptive statistics and visualizations such as proportions, moments and charts.

Convolutional Neural Networks in the Prediction of Economic Time Series

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The object of research is the sequence of values of the explained variable in the form of forecast economic indicators, which corresponds to the growing sequence of moments of time. Systems are based on artificial neural networks make it possible to successfully perform predictions. Different configurations of the convolutional CNN architectures are considered. CNN models are compared against the other forecasting models based on statistical ARMA methodology, Shallow MLP and Deep MLP.

Evaluation of OECD Countries Based on Selected Economic and Environmental Indicators

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One of the negative phenomena are nowadays climatic changes caused by global warming. The main cause of this phenomenon is greenhouse gas - carbon dioxide (CO_2), specifically its emission into the atmosphere during the combustion of fossil resources. In 2015 was made The Paris Agreement about climate change, because of the speed of global warming. The essence of the agreement was keeping global warming below 2°C. How EU countries are doing on the way to lowering global warming, was evaluated within a multi-criteria analysis. The analysis is essence of this article. The issue of air pollution caused by excessive emissions of greenhouse gases is not only a question for ecologist but also for economists. Within this work was performed analysis, taking into consideration both environmental criteria and economic factors. The set of compared variants of this analysis is created by 36 chosen countries of the OECD organization. To perform the analysis was used methods category Preference Ranking Organization METHod for Enrichment Evaluations. The result of this work is a set of graphic outputs with a description evaluating the countries' attitude and strategies to the issue of air pollution caused by greenhouse gases. It also explains the context of the topic according to selected criteria.

Review of the Literature on the Use of Multi-Criteria Decision-Making Methods for Employee Evaluation

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The organization achieves its goals only if its employees achieve high work performance. Therefore, measuring individual performance is one of the key success factors for any organisation. In practice, several different methods are used to evaluate employees, among which we can also include multi-criteria decision-making methods (MCDM). There are not many literature reviews on the use of MCDM methods in the field of human resources. This paper is focused on the state of the art of existing studies that deal with employee evaluation using MCDM. The aim was to perform a frequency analysis of the methods used in these studies. Furthermore, the advantages and disadvantages of methods encountered by the authors were identified. The occurrence of the evaluation criteria used was analysed, and companies in which the employee evaluation was carried out, also. Other aspects such as dynamics or uncertainty were also analysed. As a result of this paper was the identification of the most used MCDM methods and evaluation criteria that are used in the evaluation of employees. The results were summarised in tables or graphs.

Cost Avoidance During the Change Management

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The vehicle development process can take many years, requiring several rounds of negotiations with suppliers before a project can go into series production. Many decisions have to be made in this development process. These decisions can be unequivocal, but they can also be characterized by uncertainty, so that the decision-maker cannot be sure whether the decision is correct. Changed framework conditions that change over time can also play a major role in this. This means that it is dynamic, i.e. a decision made today can be wrong in the future because the framework conditions have changed. The main goal of this thesis is to investigate to what extent it makes sense to agree certain tools with the suppliers before a nomination and what they are, as well as their order. As part of a large survey, it is checked whether the negotiation behavior should change over time or not. An example from the automotive industry examines the extent to which this hesitant behavior on the part of decision-makers can influence the financial result. From the financial advantage and the recommendations, a process improvement can be initiated so that the negotiation strategies can be reconsidered. Because of the uncertainty, the F-AHP method is used in this work, which allows a range to be selected when answering the questions. It is made clear that the results before us after a supplier nomination are different and also explains why this happens.

Robustness Analysis of Newspaper-based Indexes

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Calculating an uncertainty index using textual data from newspaper articles is a complex process and requires a number of technical procedures and methodologies in the field of additive processing that are unfamiliar to the average user. The economist is thus often dependent on a computer scientist to process the data for him. In addition, as a huge amount of textual data usually has to be processed, the process is time-consuming. An example is the famous EPU index by Baker, Bloom and Davis. It is a widely used and respected index based on counting the occurrence of certain keywords appearing in newspapers. However, from an NLP perspective, it has several shortcomings, e.g., for the sake of simplicity, it completely ignores synonyms and semantically similar words, thus reducing the relevance of the results. The actual EPU values are regularly published. Although the calculation methodology is known, there is no online tool yet in which one can define one's own data, keywords and other parameters and calculate the index in a few minutes. To solve these problems, we have integrated modern NLP approaches such as Transforms (BERT), a fast vector database (Milvus), and wrapped the whole process in a user-friendly web application that even an inexperienced user can comfortably work with.